**Seeking the causes of post-Covid symptoms, researchers dust off data on college students with mononucleosis**

**By David Tuller, STAT, 11 September 2020**

***https://www.statnews.com/2020/09/11/persistent-symptoms-after-covid19-hard-to-study/?***

From 2014 to 2018, DePaul University psychologist Leonard Jason and colleagues [collected personal information and blood samples](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5510613/pdf/nihms846918.pdf) from more than 4,500 healthy college students. They followed the group as some students contracted mononucleosis and a small proportion of those subsequently developed chronic fatigue syndrome — the debilitating disease also called myalgic encephalomyelitis, or ME/CFS, that is frequently triggered by an acute viral illness.

As Jason and his team were analyzing data earlier this year — seeking patterns that might explain why some students remained healthy and others got sick and stayed sick — reports began emerging of troubling medical complaints lasting for weeks and months following cases of Covid-19. Some of these post-Covid symptoms, including profound exhaustion after exertion and deficits in memory and concentration, resembled those experienced by ME/CFS patients.

The researchers came to a quick realization: The extensive baseline data and biological materials they had gathered from thousands of students created a unique opportunity to investigate risk factors for developing acute and prolonged illness after infection with the novel coronavirus.

“We will be able to compare the biological and behavioral data of young adults’ experiences prior to the Covid-19 epidemic and during the Covid-19 epidemic,” noted Jason during a recent conference presentation about the research.

This kind of prospective research design, in which people are enrolled before falling ill, allows researchers to make robust comparisons between those who return to health and those who never recover. But such studies are expensive and can take years, and they are especially challenging to put together amid a fast-moving pandemic — which helps explain why so little is known about the reasons some people develop long-lasting health problems after a viral illness.

Despite this knowledge gap, post-viral symptoms, such as persistent aches and fatigue after a bout of influenza, are a common phenomenon. These symptoms usually — but not always — resolve on their own over weeks or months. Researchers studying other viral illnesses that emerged over the last two decades — SARS, West Nile virus, Ebola, the H1N1 flu pandemic of 2009 — have also reported that some patients suffered negative long-term health consequences.

“Chronic post-SARS is characterized by persistent fatigue, diffuse myalgia, weakness, depression, and nonrestorative sleep,” concluded the authors of [a 2011 study](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3071317/) that followed up SARS patients after the 2003 epidemic, which was caused by an earlier coronavirus.

When it comes to Covid-19, people with both severe and milder cases have reported continuing symptoms. Some studies of patients who had been hospitalized found that more than 70% reported continuing problems after the acute episode. In [a survey of Covid-19 patients who did not require hospitalization](https://www.cdc.gov/mmwr/volumes/69/wr/mm6930e1.htm?s_cid=mm6930e1_w), the Centers for Disease Control and Prevention reported that 35% had not returned to their “usual state of health” two to three weeks after a positive viral test.

In the U.S. and elsewhere, major research centers and medical organizations are now launching studies and registries of patients who have not recovered from Covid-19. To date, much of what is known about what has been called “long-Covid” comes from research led by patients themselves, often called “long-haulers.” In May, a research team from Body Politic, an online patient support community, released the results of [a survey of 640 long-haulers](https://patientresearchcovid19.com/research/report-1/), documenting a surprising array of symptoms.

Unlike prospective studies, which can follow participants for years, surveys provide a snapshot of information from a single slice of time. A major advantage is that they can incorporate recent developments and be conducted quickly, said Brooklyn, N.Y., artist Hannah Davis, who has a background in artificial intelligence and is a member of Body Politic’s research team. “We have the benefit of speed,” she said of the group, which disseminated [a second and more expansive survey](https://patientresearchcovid19.com/survey2/) this week.

The new Body Politic survey includes questions about antibody tests, neurological symptoms, and mental health impacts, among other topics that long-haulers have been discussing and debating in online forums. “We just kind of observe what’s happening around us and ask questions based on the trends we start seeing,” said Davis.

Eric Rubenstein, an epidemiology professor at Boston University, is consulting with Body Politic on a proposed survey related to the disability needs of long-Covid patients. Surveys can be especially useful for generating hypotheses for further research and understanding patients’ concerns and priorities, he said. In contrast, prospective research like the DePaul study can provide valuable insights into potential disease mechanisms.

Rubenstein expects more studies of Covid-19 and long-Covid to piggyback on existing research cohorts that were established for other purposes. But the college student study is noteworthy, he said, because the researchers were already investigating another post-viral illness with potentially overlapping features. Given the parallels, he said, “they’ll have some measures that are useful for this topic.”

The similarities between symptoms experienced by ME/CFS patients and some long-haulers suggest that research into the processes driving one disease might provide insights into the other, say researchers. Other post-Covid symptoms appear related specifically to the lung scarring, cardiovascular damage, and other impacts of this particular viral infection.

Jason is among the country’s most respected and prolific ME/CFS researchers, having authored or co-authored dozens of papers on the issue. In the college student study, funded with $3 million from the National Institutes of Health, about 5% of the sample developed mononucleosis and 8% of those patients met diagnostic criteria for ME/CFS after six months, said Jason, although the findings are still unpublished. Some immunological markers were associated with developing ME/CFS, he noted, while psychological factors were not. The students were recruited from Northwestern University, where Jason’s co-investigator, Ben Katz, is a pediatrics professor.

Before the pandemic began, Jason and his colleagues [had already received additional funding](https://resources.depaul.edu/newsroom/news/press-releases/Pages/Chronic-fatigue-syndrome-and-mono-in-college-age-students.aspx) to conduct follow-up research on their thousands of study participants. Given the new circumstances, they have added questions about coronavirus infection, Covid-19, and post-Covid symptoms, and outreach has already begun. The research has a multiyear timeframe, but some of the data could be released in stages, he said.

“The bottom line is there might be characteristics of individuals that might be genetic or physiological or behavioral that in some ways predispose some people toward both getting an illness and then maybe not recovering from the illness,” said Jason.